APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,918	02/12/2004	Thierry D'hers	MSFT-2927/306959.01	5497

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EXAMINER
JARRETT, SCOTT L

ART UNIT	PAPER NUMBER
3623	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)	
Office Action Summary	10/777,918	D'HERS ET AL.	
	Examiner	Art Unit	
	SCOTT L. JARRETT	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>12 February 2004</u>.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-37</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1-37</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on <u>12 February 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
    1.☐ Certified copies of the priority documents have been received.
    2.☐ Certified copies of the priority documents have been received in Application No. _____.
    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>5/13/04</u>
4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____
5)☐ Notice of Informal Patent Application
6)☐ Other: _____

U.S. Patent and Trademark Office
PTOL-326 (Rev. 08-06)   **Office Action Summary**   Part of Paper No./Mail Date 20080612

DETAILED ACTION

1.   This Non-Final Office Action is in response to Applicant's submission filed

February 12 2004. Currently claims 1-37 are pending.

Claim Objections

2.   Claims 14 and 25 objected to under 37 CFR 1.75(c), as being of improper

dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s)

in proper dependent form, or rewrite the claim(s) in independent form.

        Claims 14 and 25 appear to be independent claims 'hiding' as dependent claims.

Specification

3.   The listing of references in the specification is not a proper information disclosure

statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other

information submitted for consideration by the Office, and MPEP § 609.04(a) states,

"the list may not be incorporated into the specification but must be submitted in a

separate paper." Therefore, unless the references have been cited by the examiner on

form PTO-892, they have not been considered.

        Examiner requests a copy of the cited reference A. Netz, OLAP Services:

Semiadditive Measures and Inventory Snapshots, (Paragraph 0009).

Claim Rejections - 35 USC § 101

4.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

5.   Claims 1-37 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter.

        Regarding Claims 1-25 are rejected under 35 U.S.C. 101 based on Supreme

Court precedent, and recent Federal Circuit decisions, a § 101 process must (1) be tied

to another statutory class (such as a particular apparatus) or (2) transform underlying

subject matter (such as an article or materials) to a different state or thing. Diamond v.

Diehr, 450 U.S. 175, 184 (1981); Parker v. Flook, 437 U.S. 584, 588 n.9 (1978);

Gottschalk v. Benson, 409 U.S. 63, 70 (1972); Cochrane v. Deener, 94 U.S. 780,787-88

(1876). The process steps in claims (1-25) are not tied to another statutory class nor do

they execute a transformation. Thus, they are non-statutory.

        Regarding Claims 26-37 the claims, as currently recited, appear to be directed to

a compilation of data without any tangible result and are therefore deemed to be non-

statutory while the compilation of data may have some real world value (i.e.

utility/usefulness) there is no requisite functionality present to satisfy the practical

application requirement nor are there any "acts" which transform the data and/or cause

a physical transformation to occur outside the computer (i.e. not concrete or tangible)

therefore the invention as claimed does not produce a useful, concrete, and tangible result.

Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored in a computer-readable medium, in a computer, on an electromagnetic carrier signal does not make it statutory. See Diamond v. Diehr, 450 U.S. 175, 185-86, 209 USPQ 1, 7-8 (1981) (noting that the claims for an algorithm in Benson were unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer."). Such a result would exalt form over substance. In re Sarkar, 588 F.2d 1330, 1333, 200 USPQ 132, 137 (CCPA 1978) ("[E]ach invention must be evaluated as claimed; yet semantogenic considerations preclude a determination based solely on words appearing in the claims. In the final analysis under 101, the claimed invention, as a whole, must be evaluated for what it is.") (Abele, 684 F.2d 902, 907, 214 USPQ 682, 687(CCPA 1982)). See also In re Johnson, 589 F.2d 1070, 1077, 200 USPQ 199, 206 (CCPA 1978) ("form of the claim is often an exercise in drafting"). Thus, nonstatutory music is not a computer component and it does not become statutory by merely recording it on a compact disk. Protection for this type of work is provided under copyright law.

A claimed invention is deemed to be statutory, if the claimed invention produces a useful, concrete, and tangible result. An invention, which is eligible for patenting under 35 U.S.C. 101, is in the "useful arts" when it is a machine, manufacture, process or composition of matter, which produces a concrete, tangible, and useful result. The fundamental test for patent eligibility is thus to determine whether the claimed invention

produces a "use, concrete and tangible result". See AT&T v. Excel Communications

Inc., 172 F.3d at 1358, 50 USPQ2dat 1452 and State Street Bank & Trust Co. v.

Signature Financial Group, Inc., 149 F.3d at 1373, 47 USPQ2d at 1601 (Fed. Cir. 1998).

   The test for practical application as applied by the examiner involves the

determination of the following factors"

  (a) "Useful" - The Supreme Court in Diamond v. Diehr requires that the

examiner look at the claimed invention as a whole and compare any asserted

utility with the claimed invention to determine whether the asserted utility is

accomplished. Applying utility case law the examiner will note that:

   i. the utility need not be expressly recited in the claims, rather it may be

inferred.

   ii. if the utility is not asserted in the written description, then it must be well

established.

  (b) "Tangible"-Applying In re Warmerdam, 33 F.3d 1354, 31 USPQ2d 1754

(Fed. Cir. 1994), the examiner will determine whether there is simply a mathematical

construct claimed, such as a disembodied data structure and method of making it. If so,

the claim involves no more than a manipulation of an abstract idea and therefore, is

nonstatutory under 35 U.S.C. 101. In Warmerdam the abstract idea of a data structure

became capable of producing a useful result when it was fixed in a tangible medium,

which enabled its functionality to be realized.

  (c) "Concrete" - Another consideration is whether the invention produces a

"concrete" result. Usually, this question arises when a result cannot be assured. An

appropriate rejection under 35 U.S.C. 101 should be accompanied by a lack of

enablement rejection, because the invention cannot operate as intended without undue

experimentation.

        In the present case, claims 26-37 merely recite a system providing an

'interface' to a plurality of data. While the invention may be concrete and/or useful,

there does not appear to be any tangible result.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 1-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Shah et al., U.S. Patent No. 6,662,174 in view of Colossi et al., U.S. Patent Publication

No. 2004/0139061

        Regarding Claims 1, 14-15, 25-26 and 34 Shah et al. teach a system and method

for aggregating a measure (fact, parameter, data, etc.) over a non-additive dimension of

a multidimensional data set (first/second account, record set, multidimensional data;),

the non-additive dimension having a parent member that includes one child member

comprising (system/method for analytically modeling data; hierarchies; Column 3, Lines

14-42; Column 4, Lines 33-45; Column 5, Lines 5-25; Figures 4, 7, 8):

        - evaluating the parent member for the data (first/second account) by

aggregating the child members to a (first/second) aggregation function (Column 4, Lines

33-45; Column 7, Lines 48-68; Column 8, Lines 16; Figures 3A, 7);

        - a relational data source, an analytical data service and a reporting client

(Figure 1; Column 1, Lines 33-68);

    - enabling users to pair (match, assign, associate, link, etc.) a non-additive

aggregation function with the non-additive dimension ('providing an interface'; Column

4, Lines 33-46; Column 5, Lines 6-39; Figures 3A, 8).

    While describing multidimensional data sets as cubes is old and very well known

(Kimball et al.: "The fundamental idea of dimensional modeling is that nearly every type

of business data can be represented as some kind of cube of data.", Paragraph 2, Page

165) Shah et al. does not expressly teach that the multidimensional data set is labeled a

cube as claimed in the preamble.

    Colossi et al., teach a method for aggregating a measures over dimensions of a

cube (Paragraphs 0010, 0068, 0073; Figures 5, 10-11), the dimensions having a parent

member that includes at least one child member in an analogous art of analytically

modeling data for the purpose of representing a particular grouping or configuration of

relational tables (Paragraphs 0068, 0078, 0109).

    Colossi et al. further teach that the system and method for analytically modeling

data comprises:

    - designating some measures as semi additive (Figures 21A-21D, 22, 23;

Paragraphs 0185, 0187, 0194);

    - a relational data source, an analytical data service and a reporting client

(Figure 1; Paragraphs 0061-0062);

- enabling a user to select an additive function with which to aggregate additive
dimensions of the cube wherein the aggregation is at least one of the following: null,
average of children, first child, last child, first non-empty, or last non-empty (Paragraphs
0120, 0121, 0124, 0179; Figures 43-44).

It would have been obvious to one skilled in the art at the time of the invention
that the system and method for analytically modeling data as taught by Shah et al.
would have benefited from utilizing a plurality of well known analytically data modeling
techniques and approaches including but not limited to 'calling' multidimensional data
sets cubes in view of the teachings of Colossi et al.; the resultant system and method
enabling users to represent particular aggregations or configurations of relational tables
(Colossi et al.: Paragraph 0068).

Regarding Claims 2, 16, 27 and 35 Shah et al. teach a system and method for
analytically modeling data further comprising enabling a user to designate the measure
as semi-additive ('providing an interface'; Column 5, Lines 6-20; Column 7, Lines 59-68;
Column 8, Lines 1-15; Figure 5)

Regarding Claims 3, 17, 28 and 36 Shah et al. teach a system and method for
analytically modeling data further comprising enabling a user to select an additive
function with which to aggregate additive dimensions of the cube (providing an

'interface'; Column 2, Lines 50-68; Column 4, Lines 7-45; Column 6, Lines 1-20; Figures 6, 8, 9).

Regarding Claims 4-5, 18 and 29-30 Shah et al. teach a system and method for analytically modeling data further comprising enabling a user to pair the non-additive dimension with a non-additive (by account, record set, etc.) aggregation function Column 2, Lines 50-68; Column 4, Lines 7-45; Column 6, Lines 1-20, 36-60; Column 7, Lines 48-68; Figures 6-9).

Regarding Claims 6 and 31 Shah et al. teach a system and method for analytically modeling data further comprising enabling a user to pair the data (first/second account, record set ,etc.) with a first account (data, record) type, the type being associated with the (first) aggregation function (Column 4, Lines 33-46; Column 5, Lines 23-39; Column 9, Lines 1-10, 55-68).

Regarding Claims 7 and 32 while various account types are commonly used in business (income, liabilities, expenses, etc.), Shah et al. does not expressly teach that the (first) account type includes on of the following: income, expense, flow, balance, asset, liability, statistical or missing as claimed.

Colossi et al. teach system and method for analytically modeling data wherein the (first) account type includes on of the following: income, expense, flow, balance,

asset, liability, statistical or missing (Paragraphs 0232) in an analogous art of

analytically modeling data wherein Colossi et al. shows a common aggregation.

It would have been obvious to one skilled in the art at the time of the invention

that the system and method for analytically modeling data as taught by Shah et al.

would have benefited from aggregating data along any of a plurality of common or well

known 'account' types including but not limited to income, expense as taught by Colossi

et al.

Further regarding claims 5-7 and 31-32, it is noted that the type of data (account)

or label applied to the data (account) merely represents non-functional descriptive

material and are not functionally involved in the steps recited nor do they alter the

recited structural elements. The recited method steps would be performed the same

regardless of the specific data or label used to describe the data. Further, the structural

elements remain the same regardless of the specific data or label used to describe the

data. Thus, this descriptive material will not distinguish the claimed invention from the

prior art in terms of patentability, *see In re Gulack, 703 F.2d 1381, 1385, 217 USPQ*

401, 404 (Fed. Cir. 1983); In re Lowry, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir.

1994); MPEP 2106.

Regarding Claims 8-13, 19-24, 33 and 37 Shah et al. teach a system and method

for analytically modeling data enabling a user to pair the data (first account) with an

aggregation function wherein the aggregation is at least one of the following: null, average of children, first child, last child, first non-empty, or last non-empty (Column 7, Lines 48-65; Column 8, Lines 1-15; Column 8, 45-53).

While Shah et al. does not expressly teach all of the potential aggregation functions listed official notice is taken that the aggregation functions claimed are old and well known to those skilled in the art of data analytics and/or modeling.

It is noted that the type of aggregation function utilized merely represents non-functional descriptive material and are not functionally involved in the steps recited nor do they alter the recited structural elements. The recited method steps would be performed the same regardless of the specific aggregation function utilized. Further, the structural elements remain the same regardless of the specific aggregation function utilized. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, *see In re Gulack, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); In re Lowry, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994); MPEP 2106.*

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Rauer et al., U.S. Patent No. 6,161,103, teach a system and method for analytically modeling data.

- Le, U.S. Patent No. 7,058,640, teach a system and method for analytically modeling data utilizing data cubes.

- Shah et al., U.S. Patent No. 7,031,953; U.S. Patent Publication 2002/0035565, 2002/0038229, 2002,0059267, 20020099692, teaches a system and method for aggregating a measure over a non-additive dimension of a cube and aggregating using aggregation function(s).

- Pedersen et al., Mutlidimensional Database Technology (2001), teaches the well known analytically modeling of data including the use of semi-additive, additive and non-additive measures, data cubes and aggregation functions.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SCOTT L. JARRETT whose telephone number is (571)272-7033. The examiner can normally be reached on Monday-Friday, 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Van Doren Beth can be reached on (571) 272-6737. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Scott L Jarrett/
Primary Examiner, Art Unit 3623